CLAIMS

What is claimed is:

1. A method for tracking and managing a plurality of lithographic masks through a semiconductor manufacturing environment, the method comprising:

establishing a virtual fab with a plurality of entities, each entity associated with an internal process to a semiconductor fab or an external process to the semiconductor fab;

defining a state diagram for tracking the plurality of lithographic masks through the plurality of entities of the virtual fab;

placing each of the plurality of lithographic masks at a pre-determined state of the state diagram; and

determining a future location for each of the masks in the virtual fab via the state diagram.

2. The method of claim 1, wherein at least one of the lithographic masks is a physical mask reticle.

3. The method of claim 1, wherein at least one of the entities is a service system interface for communicating between a computer system associated with a customer and a computer system associated with the semiconductor fab.

4. The method of claim 1, wherein at least one of the entities is a manufacturing executing system used to facilitate production in the semiconductor fab.

5. The method of claim 1, wherein at least one of the entities is a manufacturing team interface for communicating with personnel associated with the semiconductor fab.

6. The method of claim 1, wherein at least one of the entities represents a specific process used within the semiconductor fab.

7. The method of claim 1, wherein at least one of the entities is a service system interface for communicating between a computer system associated with an external service provider and a computer system associated with the semiconductor fab.

8. The method of claim 7, wherein the external service provider is a reticle manufacturer.

9. The method of claim 7, wherein the external service provider is a separate fab.

10. The method of claim 1, wherein the virtual fab comprises a plurality of processes of the semiconductor fab.

11. A system for tracking and managing a plurality of lithographic masks through a semiconductor manufacturing environment, the system comprising:

a first group of instructions for establishing a virtual fab having a plurality of entities;

a second group of instructions for establishing an enterprise mask management system;

a third group of instructions for establishing a plurality of state diagrams, the state diagrams having a plurality of states corresponding to the entities of the virtual fab, and the progression through the states being controlled by the enterprise mask management system; and

one or more memories for storing the first or second group of instructions.

12. The system of claim 11 further comprising:

one or more processors for interfacing with the one or more memories and executing the first, second, and third groups of instructions.

13. The system of claim 11, wherein the enterprise mask management system comprises a central entity for managing the progression of states via the state diagram.

14. The system of claim 11, wherein the enterprise mask management system comprises an electron beam operation entity for providing information used in creating the masks.

15. The system of claim 11, wherein the enterprise mask management system comprises an internal quality control entity for providing control of a predetermined quality of the masks.

16. The system of claim 11, wherein at least one of the lithographic masks is a physical mask reticle.

17. The system of claim 11, wherein at least one of the lithographic masks is a group of data.

18. The system of claim 11, wherein the virtual fab comprises a service system interface for providing an interface between customers and the manufacturing operations.

19. A software program stored on a recordable medium, the software program being used for tracking and managing a plurality of lithographic masks through a semiconductor manufacturing environment, the software program comprising:

instructions for establishing a virtual fab with a plurality of entities, each entity associated with an internal process to a semiconductor fab or an external process to the semiconductor fab;

a state diagram for tracking the plurality of lithographic masks through the plurality of entities of the virtual fab;

a communications interface for placing each of the plurality of lithographic masks at a pre-determined state of the state diagram; and

instructions for determining a future location for each of the mask in the virtual fab via the state diagram.

20. The software program of claim 19 wherein the plurality of entities include:

at least one entity associated with a first lithographic processing system in the semiconductor fab;

at least one entity associated with a second lithographic processing system in the semiconductor fab;

at least one entity associated with a manufacturer of the lithographic masks;

at least one entity associated with a customer of products being manufactured by the semiconductor fab; and

at least one entity associated with engineering support for the either or both of the first and second lithographic processing systems.